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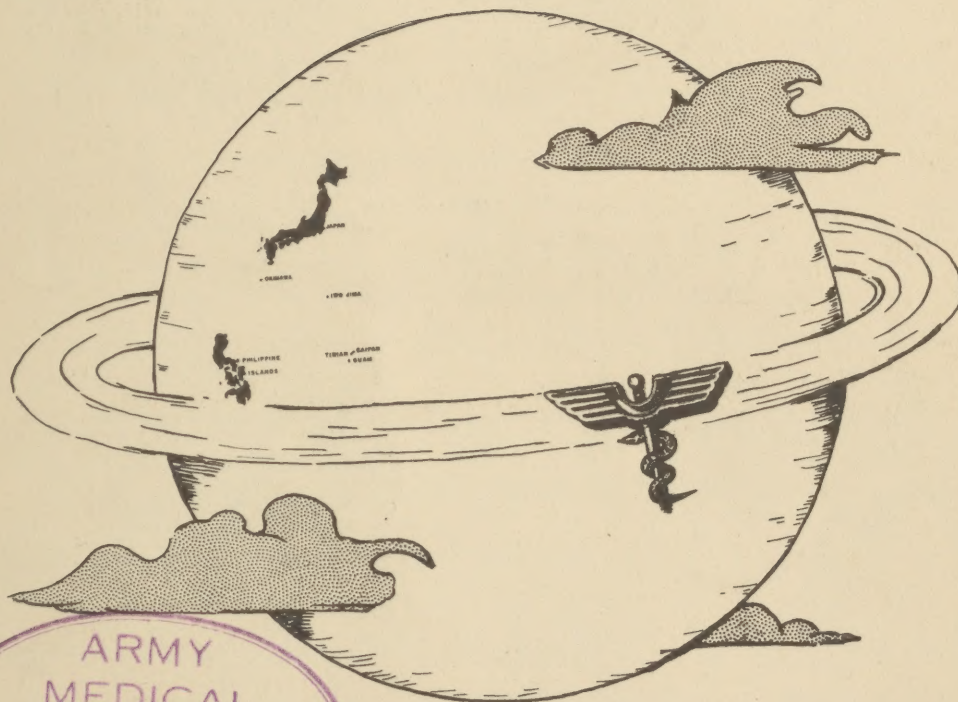
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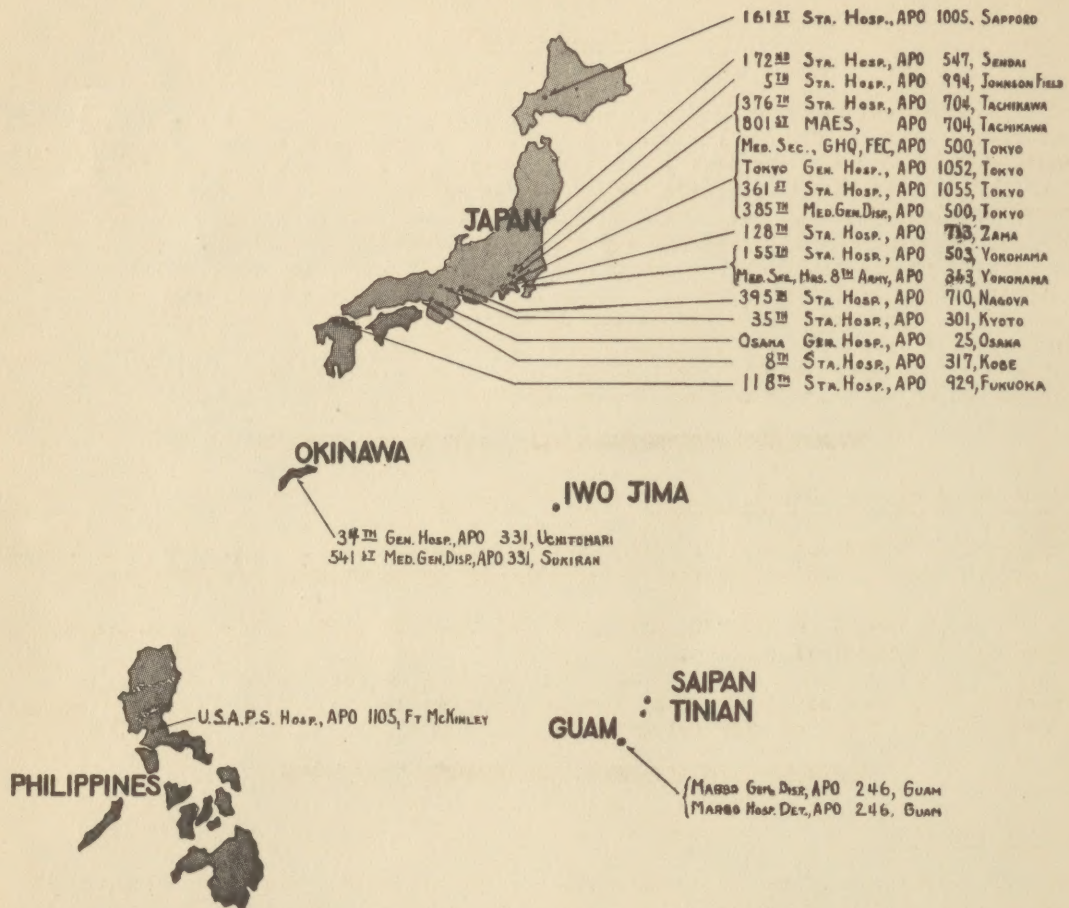
A FAR EAST PERIODICAL OF MEDICAL DEPARTMENT INFORMATION

SURGEON'S CIRCULAR LETTER

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## ARMY NURSE CORPS OBSERVES 49TH BIRTHDAY ANNIVERSARY

On 2 February 1950 the Army Nurse Corps will celebrate its 49th Anniversary. Although history is replete with stories of the valiant services rendered by American women since the Revolutionary War, it was not until 16 April 1947 that nurses were granted permanent commissions in the Regular Army. Prior to World War II and until 1947, nurses were appointed with the relative rank of officers.

With the establishment of the Regular Army Nurse Corps, an active Reserve Section was created under the same Act of Congress. Qualified graduate registered nurses are eligible for appointment in both Regular Army or Reserve Section.

Military nursing today offers many opportunities including professional advancement, travel, and retirement benefits.

To the Army nurses in the Far East Command, we extend congratulations and continued good wishes for success!



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GENERAL HEADQUARTERS  
FAR EAST COMMAND  
MEDICAL SECTION

SURGEON'S CIRCULAR LETTER

APO 500

NUMBER. . . . . 2

1 February 1950

PART I

ADMINISTRATIVE

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I. Organization of the Medical Section

Arrivals in the Medical Section, General Headquarters, Far East Command: Lt. Colonel Robert E. Selwyn, MSC, arrived in the Medical Section to assume the duties of Executive Officer.

Captain John W. Barr, MSC, arrived in the Medical Section to assume the duties of Chief, Administrative Division, Medical Section.

Departure from the Medical Section, General Headquarters, Far East Command: Captain Elvis E. Bates, MSC, completed his tour of overseas duty and returned to the ZI for reassignment.

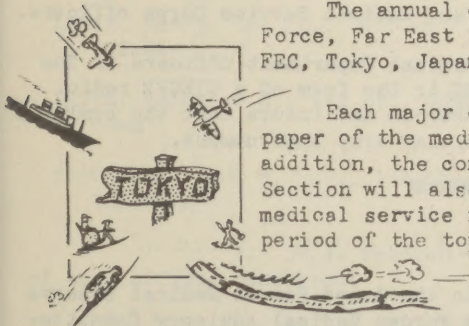
II. Atomic Medicine

Over 250 physicians from the Armed Forces, National Guard, Veterans Administration and Public Health Service, state health departments, and medical and pharmacy school faculties are attending the 11th class in Medical Aspects of Atomic Explosion which began 28 November at the Army Medical Center, Washington, D.C.

III. FEC Conference of Major Command Surgeons

The annual conference of the major command surgeons of the Army, Navy and Air Force, Far East Command, is scheduled to convene at the office of the Chief Surgeon, FEC, Tokyo, Japan, during the week beginning 19 March 1950.

Each major command surgeon scheduled to attend the conference will present a paper of the medical service and the medical problems of his respective command. In addition, the consultants to the Chief Surgeon and various members of the Medical Section will also present papers on their activities in relation to the overall medical service in the command. Each talk will be followed by a 30-minute discussion period of the topics presented.





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IV. Appointment of Medical Department Officers in the Regular Army



SR 605-25-10 dated 21 December 1949 concerning appointment of Medical Department officers in the Regular Army has recently been received in the Far East Command. This new publication supersedes AR 605-20 dated 11 June 1948 which has been previously publicized to all concerned, and under the provisions of which all applicants since 11 June 1948 have been processed in this command.

There are no major changes in policy effected by the new Regulation, however, the following points should be of interest to all non-Regular Medical Department officers who are eligible for Regular Army appointment under this program:

1. All eligible applicants will be examined by the Far East Command Regular Army Appointment Board at GHQ, FEC. Each Board meeting will be composed of at least three senior members of the Corps in which the applicant is applying. A Medical Corps officer will not be required to serve as a member of a Board meeting unless there are an insufficient number of senior officers of the applicable Corps available; in such cases the Board will consist of at least two members of the applicable Corps and one Medical Corps officer. As far as practicable all Board meetings will be composed of senior Medical Department officers assigned to Medical Department installations within the Tokyo area. At the time of this writing the following named (subject to constant revision due to arrivals, departures, reassignments, etc.) officers are members of the FEC Board:

Col George W Reyer, MC, Tokyo GH  
Col John A Isherwood, MC, Tokyo GH  
Col Harold G Ott, DC, GHQ FEC  
Col Francis W Pruitt, MC, Tokyo GH  
Col Norman W Anderson, MC, Tokyo GH  
Col John T B Strode, MC, 361st Sta Hosp  
Col Richard H Eckhardt, MC, GHQ FEC  
Col Cecil S Mollohan, MC, GHQ FEC  
Col R E Hammersberg, DC, Tokyo GH  
Col Elmer O Hinman, DC, 385th Med  
Gen Disp  
Lt Col Lucius G Thomas, MC, GHQ FEC

Lt Col Arthur P Long, MC, GHQ FEC  
Lt Col Harlan H Taylor, MC, GHQ FEC  
Lt Col Marion L Mills, DC, 385th Med Gen Disp  
Lt Col Ralph E Reiner, MC, Tokyo GH  
Lt Col R L Hullinghorst, MC, 406th Med Gen Lab  
Lt Col Forest E Hull, MC, Tokyo GH  
Lt Col Wm S Smith, MC, 385th Med Gen Disp  
Lt Col A M Davison, MC, Tokyo GH  
Lt Col Marie S Galloway, ANC, Tokyo GH  
Lt Col Harry E Ramsey, DC, Tokyo GH  
Maj Margaret M Bitzel, ANC, 361st Sta Hosp  
Maj Mildred I Clark, ANC, GHQ FEC

(Officers of the Women's Medical Specialist Corps will be included as Board members upon receipt of an application for RA appointment submitted by a member of this Corps.)

2. Applicants are no longer required to submit certificates based upon personal acquaintance from reputable persons as to character, habits, and evidence of professional attainment.

3. Applicants are no longer required to submit documentary proof of U. S. citizenship unless citizenship was obtained through naturalization.

4. It is now necessary that all applications include properly completed WD AGO Form 643 A (Personal History Statement), in duplicate and Standard Form 89 (Report of Medical History). Submission of these forms with applications were not formerly required.

5. The program "Qualification Tour," formerly known as "Competitive Tour," is outlined in detail for the benefit of interested (and eligible) Veterinary Corps and Medical Service Corps officers.

Recently prepared instructions concerning "Appointment of Medical Department Officers in The Regular Army," are being dispatched to all major commanders in the FEC in the form of a CINCFE radio. Major command surgeons are urged to publicize the program contained therein and insure that the contents are made available to all Medical Department officers eligible for Regular Army Appointment.

V. Medical Reserve Problems

In a preliminary effort to locate and correct deficiencies in the Armed Forces Medical Reserve Program, a special task force, appointed by the Chairman of the Armed Forces Medical Advisory Committee (AFMAC), had begun hearings. About 1 January 1950, findings of the task force were transmitted to the



AFMAC for the recommendation of specific measures to the Secretary of Defense. Proposals involving changes will be coordinated with the Civilian Components Policy Board (responsible for over-all program of Reserve affairs) and the Office of Medical Services.

#### VI. Army Regulations Relative to Additional Pay for MC and DC Officers

Attention is invited to AR 35-1120, AFR 173-83, Departments of the Army and the Air Force which contains information relative to additional pay for medical and dental officers.

#### VII. Army Medical Service Exhibits



During the latter part of 1949 at a convention of the American Medical Association the Army Medical Service displayed four exhibits illustrating its activities.

Outstanding was the exhibit on chloromycetin in the treatment of rickettsial diseases and the treatment and prevention of scrub typhus, with an illustrated record of tests conducted in Malaya, with the cooperation of British and Malayan medical personnel.

#### VIII. Internship Appointments

Appointments to internships at Army hospitals, beginning next 1 July, have been awarded 190 senior medical students. Upon graduation from medical colleges, they will be commissioned as first lieutenants in the Army Medical Corps Reserve, will be called to extended active duty, and will be assigned to one of 10 Army general hospitals. The 190 selected includes 146 Army veterans, 34 former members of the Navy, and 4 who served as Marine Corps officers.

#### IX. Change in Category Designation for Participants in Senior Dental Student Program

The following letter from the Department of the Army which was received in the Medical Section, GHQ, FEC, is published for the information of all dental personnel:

"1. In order to carry out the intent of the Senior Dental Student Program, Par 2c, DA Cir 339, 1948, the following Dental Corps officers in your command who participated in this program, will, provided they so desire, be permitted to change their Category III commitments which they were required to sign as MSC-Res officers to Category V with expiration dates exactly two years from dates of commissions as DC-Res officers:

Name	Expiration date Current Cat. III	Expiration Date Cat V
ARAO, Raymond M., 1st Lt., 0965054 Okinawa	31 Dec 51	29 May 51
LEVIN, Harry, 1st Lt., 0965209 Okinawa	31 Dec 51	17 Jun 51
SMITH, Valerian E., 1st Lt., 0965050 Guam	31 Dec 51	3 Jun 51
SNODGRASS, John W., Jr., 1st Lt., 0965491 Yokohama	31 Dec 51	14 Jun 51

"2. It is desired that the contents of this communication be brought to the attention of each officer concerned.

"3. WD AGO Form 66-a, Report of Change, reflecting changes made under this authority, will be submitted in accordance with the provisions of Par 20, TM 12-425A, July 1947."



X. Medical Corps - Specialists

Almost 11% of the 1,457 Regular Army Medical Corps officers on active duty on September 30 were certified as specialists in various branches of medicine and surgery. In addition to the 160 Regular Army specialists, 10 Medical Corps Reserve officers on active duty have been certified by American Specialty Boards. Eighteen specialties are represented. The largest number, 47, are certified in internal medicine. Radiology, embracing such subjects as x-ray therapy, roentgenology and the important field of atomic radiation, has 20 specialists certified by the American board concerned. Other specialties in which the Army has 10 or more board men are clinical pathology, general surgery, pathologic anatomy, and psychiatry. The newest specialty board is in the field of preventive medicine and public health.

XI. Recent Department of the Army and FEC Publications

AR 35-1120, 7 Dec 49 - Finance and Fiscal: Additional Pay for Medical and Dental Officers

AR 605-275, 14 Dec 49, C-1 - Officers: Resignation. Par 11 a (2) added

GO 54, DA, 21 Dec 49 - Recommended Lists for Promotion to Lt Col, Maj and Capt of Medical Department

SR 55-720-1, 7 Nov 49 - Transportation and Travel: Preparation for Oversea Movement of Units (POM) Par 51, Medical Requirements; Par 78 Surgeon General, Departments of the Army and the Air Force

SR 40-590-47, 12 Dec 49 - Medical Service: Medical Services to United States Foreign Service Personnel and their Dependents in Medical Facilities of Departments of the Army and the Air Force

SR 135-175-5, 19 Dec 49 - Civilian Components: Separation of Offs: Sec II Terminal Physical Exams

PART IITECHNICAL

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XII. Eosin-Methylene Blue Stain for Eosinophiles

In the study of repeated upper respiratory infections where nasal blockage and congestion, or symptoms suggestive of hay fever are present, the presence or absence of an eosinophilia in the nasal smear proves very helpful. Ordinary Wright's stain can be used satisfactorily but the stain described below (1) enables one to identify eosinophiles present instantly and without question and for this purpose it is felt to be far superior to Wright's stain.

The same stain can be used in the study of sputum and bronchial secretions where a bronchitis is suspected of having an allergic basis, or where the question of bronchial asthma arises.

SOLUTIONS:

1. 1-200 Eosin (0.30 grams eosin in 60 cc methyl alcohol).

(1) Dr. F. S. Smyth, Professor of Pediatrics, University of California, in personal communication to Colonel R. E. Blount, MC, Medical Consultant, Far East Command



2. 1-1000 Methylene blue (0.06 grams methylene blue in 60 cc methyl alcohol).
3. 95% Ethyl alcohol.
4. Distilled water.

TECHNIQUE:

Make thin smear of secretion (take particular pains not to make a thick smear) on glass slide. Allow to dry in air or over low flame. Stain for one (1) minute with 1-200 eosin solution. Then add sufficient distilled water to take up staining solution and cover slide completely. Allow to stand one (1) minute. Drain off and flood with water until all free stain is removed. Flood with 95% ethyl alcohol and drain off. Immediately stain with 1-1000 methylene blue for one (1) minute and repeat with distilled water as above and let stand for two (2) minutes. Remove excess stain with distilled water and flood again with 95% alcohol. Drain off and dry.

XIII. Sulfonamide and Antibiotic Therapy

Procaine penicillin in aluminum monostearate is now available in the Far East Command. Until further instructions are issued however, Crystalline penicillin G in oil and wax should be used for the therapy of gonorrhea and of early syphilis.

From the work of Eagle, Keefer, Blankenhorn, and others, it appears that Crystalline penicillin in single daily intramuscular dosage of 200,000 units is highly effective in the therapy of the average susceptible bacterial infection. It is suggested that Crystalline penicillin be used when indicated for "in-patients," thus making the limited supply of procaine penicillin available for ambulatory out-patients.

Aureomycin and chloromycetin are available in limited quantities. It appears that many of the gram positive bacteria are more susceptible to penicillin than to either aureomycin or to chloromycetin. It has also been shown that many of the gram negative organisms are more susceptible to streptomycin, or to sulfonamides, than to aureomycin or chloromycetin.

In illnesses such as septicemia, bacterial endocarditis, meningitis, and the bacterial pneumonias every effort should be made to identify the invading organism by cultural methods. If an organism can be isolated, its sensitivity to the available therapeutic agents should then be determined. Cultures may be sent by the quickest available means to the nearest general hospital or to the 406th Medical General Laboratory for such sensitivity tests. It will usually not be practicable or necessary to wait for sensitivity tests to begin therapy, but the results of the sensitivity tests may indicate a change in drug or dosage.

XIV. Treatment of Malaria in a Temperate Climate - Capt. Sherman B. Lindsey, MC, and Capt. Loretta M. Bevins, ANC, 161st Sta Hosp, APO 1005



A comparison of the effectiveness of chloroquine, quinine and quinacrine (atabrine) on attacks of *p. vivax* malaria was made at the 161st Station Hospital, Sapporo, Japan, during the period April to November 1949. The patients were young infantry soldiers who had all served in Korea the summer of 1948. Although 90% of the soldiers had their first attack of malaria on Hokkaido, it is believed by the authors that these cases were acquired in Korea since the incidence of malaria among the native population of Hokkaido is very low. There were no commissioned officers admitted for malaria during this period.

During the above period, 179 treatments were given for *p. vivax* malaria. Approximately 50% of these were for relapse of cases previously treated in the series. An attempt was made to have an equal number of cases under treatment of each drug at a given time of the year; however, in August, 1949, quinine was dropped from the series since it was obvious at that time that it allowed frequent relapses and gave short intervals between relapses.

After a positive blood smear was obtained for malaria, the patient was started on one of the following drugs: chloroquine diphosphate - total dose, 1.5 gms (.75 gm of the base) over a three day period; quinine sulfate - total dose, 14.5 gms over a seven day period; quinacrine - total dose, 2.4



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gms over a six day period. The total dose of chloroquine diphosphate used was one-half the recommended dose (1).

## RESULTS OF TREATMENT:

<u>Drug Used</u>	<u>Total Treatments, Including Those for Relapses</u>	<u>Relapses</u>	<u>Relapse Interval</u>
Chloroquine Diphosphate	64	20 (31%)	47 days
Quinacrine (Atabrine)	81	40 (49%)	40 days
Quinine Sulfate	34	23 (67%)	18 days

The period between cessation of treatment and the reappearance of clinical and laboratory evidence of malaria was considered the relapse interval. This interval was found to be the longest with the use of chloroquine. When the summer season is limited, as it is on the Island of Hokkaido, prolonging the interval between relapses also reduces the number of relapses during that season. This may account for the smallest number of relapses with the use of chloroquine.

Fever and general malaise disappeared well in all cases after treatment was started. No toxic symptoms were noted in the series except occasional tinnitus with the use of quinine. The absence of skin discoloration with the use of quinine and chloroquine was a psychological advantage over quinacrine. Previous work on the comparison of the above drugs has shown chloroquine to be advantageous because of the increased relapse interval and its rapid action (2).

## SUMMARY:

Chloroquine diphosphate was found to be more effective in the treatment of p. vivax malaria attacks appearing in a temperate climate than quinine or quinacrine, in that the interval between relapses was increased and the number of relapses during the summer season was decreased. The short hospitalization required and the absence of discoloration of the skin are also advantages of chloroquine.

## COMMENTS BY COLONEL R. E. BLOUNT, MC:

The long incubation periods of these cases of vivax malaria that were contracted in Korea are noteworthy. These clinical studies add to the sum total of the knowledge of the effectiveness of the therapy of malaria. Experimental and clinical studies have shown that chloroquine is concentrated in cellular structures such as liver, spleen, kidney, lungs and in leucocytes. It is concentrated in the liver cells some 500 times its plasma level. The breakdown and excretion of chloroquine are delayed. Plasma concentration drops about 60% per week after the last dose is given.

It is mainly effective against asexual erythrocyte parasites. It has been quite effective in acute malarial attacks. If nausea and vomiting are present, or if cerebral malaria is suspected, atabrine should be given parenterally. See TB MED 72. Chloroquine is not effective against the exoerythrocytic parasites, and since relapses are felt to be due to these exoerythrocytic forms, its failure to absolutely prevent the relapses of vivax malaria is understandable. As a comparison, after quinine, about 50% of vivax malaria cases relapse. The delay in the appearance of relapses after chloroquine appears to be definite. Falciparum infections are usually cured. The gametocytes of falciparum are resistant to chloroquine.

Combinations of pentaquine and quinine show great promise in the cure of relapsing vivax malaria.

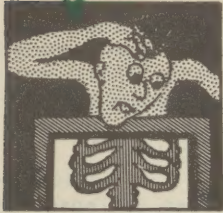
## (1) Standard Dosage for Malaria:

1.0 gram of chloroquine diphosphate (0.6 gm of base) as initial dose, followed in six hours by 0.5 gm (0.3 gm of base) then 0.5 gm (0.3 gm of base) once daily for 2 days, making a total of 2.5 grams of salt (1.5 gm of base) in 3 days.

## (2) "Treatment of Malaria," Bull. U. S. Army Med Dept, Vol. 9; 530-532, June 1949



IV. Generalized Physical Therapy Before and After Chest Surgery - 1st Lt Janet E. Cook, WMSC, 118th Station Hospital, Fukuoka, Japan



(The following discussion of physical therapy for chest surgery cases is general in nature and does not embrace any complications or consideration for special problems that may present themselves in individual patients.)

After a thoracoplasty, a patient's future posture, and his ability to use the shoulder on the operated side, becomes the problem of the Physical Therapist. With this in mind, it is advisable that the Physical Therapist explain to the patient before surgery the importance of proper body alignment in bed immediately following surgery. It is also important that the patient be told to begin to regain range of motion of the shoulder almost immediately after surgery even though the attempt will be most painful. There are several tendencies that will follow almost every thoracoplasty. They should be brought to the attention of the patient before his surgery so that he will understand what the Physical Therapist is trying to guard against.

The following postural deviations have been noted in almost every patient that has had a thoracoplasty:

The head will tend to tilt toward the unoperated side because of the removal of the insertion of the sterno-cleido-mastoid muscle.

Unless the patient is very observing of his posture, scoliosis is bound to be the aftermath of a thoracoplasty. The unilateral removal of the ribs immediately places the body into improper muscle balance, and only with diligent observation and patience on the part of the patient will an erect spinal column be maintained.

An elevated shoulder and hip will follow a thoracoplasty as the scoliosis progresses, and will be exaggerated as the scoliosis becomes more pronounced. Another factor that encourages the elevation of the shoulder and hip is the tendency of the patient to favor the operated side by carrying the arm close to his body, and lowering the shoulder on the operated side, thus elevating the opposite shoulder and hip.

These are the things that a candidate for thoracoplasty must be made conscious of. They cannot be too firmly impressed upon his mind.

As soon as the patient reacts from the anesthetic the sandbags are placed. Since the insertion of the sterno-cleido-mastoid muscle has been removed the unoperated sterno-cleido-mastoid muscle will tend to pull the head into an exaggerated tilt toward the unoperated shoulder. A sandbag is placed firmly against the head on the unoperated side of the head in an attempt to prevent the tilt. Another sandbag is placed over the lobe that is to be collapsed in order to hasten the collapsed state. The patient's body alignment is also corrected. This position closely assimilates the anatomical position. The patient should be checked frequently and corrected until he is aware of the "feel" of proper position.

Approximately 24 hours after surgery, the Physical Therapist will passively carry the shoulder through as nearly complete range of motion as will be tolerated by the patient. Ideally, this should be done every two or three hours. The second day after surgery, the patient should be encouraged to move his shoulder with his own muscle power.

On the third or fourth day, the patient should be doing his exercises in a sitting position. The exercises should be done frequently throughout the day, but should not be done for long periods at a time. Over-fatigue must be avoided.

Usually on the fifth day the sutures are removed and the patient becomes ambulatory. At this time the Physical Therapist should begin a light friction massage with lanolin to prevent scar adhesion which can become painful and limit the range of motion of the shoulder.

As the patient becomes ambulatory and free from pain, the tendency to become lax of posture habits increases proportionately. Unless the patient is unusually conscious of the cosmetic effect of a thoracoplasty, his posture must be continually corrected and brought to his attention.

Barring complications, the second stage thoracoplasty takes place approximately 21 days after the first stage. The third stage follows 21 days after the second, and the fourth, 21 days after the third. Each stage accents the postural problem, and the tendency toward a shoulder that does not have



full range of motion. The Physical Therapist must constantly be on the alert for poor posture tendencies and correct them before they become habits.

As the patient goes into the convalescent stage, the chief concern of the Physical Therapist is to prevent an adherent scar and the postural deviations that were previously mentioned.

Physical Therapy for lobectomies, and vein ligations follow much the same routine as the thoracoplasties, except that they are only one stage of surgery, and the tendency toward poor posture is not as predominant.

In gun shot wounds, or cases with pulmonary tuberculosis where the lobe has been collapsed and healed without removal of a lobe, the patient is taught breathing exercises that will accent the expansion of a given lobe. Blow-bottles are also used to increase lung capacity. Here again posture is an important problem for the Physical Therapist, but postural exercises in this type of case must be planned to fill the requirements of each individual patient and cannot be grouped into a routine.

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#### XVI. Clinical Pathological Conference

##### PRESENTATION OF CASE



A 25-year-old married white female was admitted to a hospital on 15 March with a chief complaint of pain in the left chest.

On 1 March she had suddenly developed a sharp pain in the lower left chest. This pain was sharply localized and non-radiating and was made worse by deep breathing. Pain had been constantly present since its onset. It had progressively increased in severity. She complained of tenderness of the chest wall over the site of the pain. Because of the pain she was unable to abduct her left arm beyond 80 degrees.

"Dyspnea" had accompanied the pain and had steadily become worse from the time of its onset. The "dyspnea" seemed to be increased by exertion. Position, however, had no influence on the "dyspnea." She coughed on occasion. There had been no hemoptysis, nausea or vomiting. She was not aware of having had any chills or significant "fever."

A cyst had been removed from under the left breast at the age of nine years, and this was said to have contained purulent material.



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Last menstrual period had occurred 1 January. Previously, menstruation had been regular. In February the breasts had shown bilateral enlargement.

Some "dyspnea" or hyperpnea was noted on admission. There was some splinting of the left thoracic cage. Tenderness was noted in the left mid-axillary line about the fifth interspace. A few questionable rales were heard in this area. No friction rub noted. BP 128/80. T° 98.6°, R 22. No other physical abnormality was noted.

Urinalysis: Sp. G 1.021 - pH 5 - Alb 2 / - Sugar 1 / . An occasional RBC and an occasional WBC was noted.

Hgb 12.0 gms, WBC 12,200, Polys 87%, Lymphocytes 8, Monocytes 5, Sedimentation rate 45 mm/hr, Hematocrit 54 mm, Serum calcium 9.9. mgm%, Alkaline phosphatase 3.7, Bodansky units Acid phosphatase, no activity - Serum phosphorus 2.7 mgm%, Kahn negative.

Chest x-ray film showed a rounded homogeneous shadow in the left lower lung field approximately 7 centimeters in diameter.

Subsequently her "dyspnea" appeared to increase somewhat and codeine was required for increasingly severe left-sided chest pain.

On 17 March, fluoroscopy failed to determine definitely whether the mass was parenchymal or whether it arose from the chest wall or pleura. Stereoscopic views suggested that the mass might arise from the pleura.

Urinalysis on this date showed 4 / sugar and a strongly positive test for acetone. No acetone was noted on the patient's breath at this time.

While on admission the patient had been afebrile, it was noted 16 March and subsequently till death, that she ran an intermittent type of low-grade fever up to 101. The pulse ranged from 114 to 120 and respiration from 20 to 22, until the morning of the 18th of March, when her temperature was noted to be 98.7, her pulse recorded as 132, and respiration as 35. At this time her urine showed 4 / sugar, 4 / acetone, and 2 / albumin. Fasting blood sugar was 308 mgms%. NPN 31 mgms%. Plasma CO2 vols. % 12.6

The patient was definitely hyperpneic and her color was considerably poorer than on the previous day. In the afternoon the patient lapsed into coma.

At 1500 the 18th of March 50 units of regular insulin was given subcutaneously and 500 cc of 1/6 M sodium r lactate was given IV. During the next four hours, 75 additional units of regular insulin was given subcutaneously. 1000 cc of physiological saline was then given IV, followed by 400 cc more of lactate and 1000 cc of 10% glucose in saline with 100 units of insulin added. Subsequently, she received an additional 200 cc of lactate solution with 5% glucose.

At 1830 respiration was noted to be 36, her face was flushed, and lips and tongue were dry. The skin was warm and dry. Pulse 130. BP 104/60. The respiration was described as being typically Kussmaul.

By 1900 patient had regained consciousness and was asking for water. Her blood sugar at this time was 187 mgm% and CO2 combining power was 14.5 volumes %. Urine specimens were obtained through an indwelling catheter at 1/2 hour intervals. At 1500 it had shown 4 / sugar and 4 / acetone. At 1600 urine showed 2 / sugar and 3 / acetone. At 1630 the sugar was 1 / and acetone was still strongly positive.

By 1800 the urine showed a trace of sugar and 4 / acetone and by 1830 the urinalysis was negative for sugar although the acetone was still strongly positive.

At 1915 BP was 146/65 and pulse 136. At this time the patient complained of headache and the IV infusion was slowed. By 1930 the urine sugar was 4 / again. The patient was quite restless and required constant watching to prevent her from thrashing about in bed. At 1945 the pulse was noticed to be rapid and irregular. The patient became cyanotic and oxygen was given.

At 2000 hours pulse was rapid, regular and poor in volume. BP 100/60. Breathing was rapid and slightly irregular. Plasma was given and 50 cc of 50% glucose was given IV. BP continued to drop and at 2030 was recorded as 80/40 and the pulse was 144. Respiration was rapid and shallow.

By 2115 the pulse was unobtainable, and the patient expired at 2120.



## DIFFERENTIAL DIAGNOSIS

Dr. H. F. Klinefelter, Internist:

The description of the onset is highly suggestive of pleural pain, and I am sure that she had pleurisy. It had progressed since its onset and finally her left chest wall became tender at the site of the pain and she was unable to abduct her arm beyond 80 degrees. That inability to abduct her left arm was probably due to the fact that she had reflex irritation in her pectoralis muscle or in the muscles of the shoulder girdle from the pleural irritation. Dyspnea is in quotation marks. I don't know why it is in quotation marks. Dyspnea means shortness of breath. Could it be possible that this might have been air hunger due to diabetic acidosis? Anyway she had complained of being short of breath since the onset of the pain, and this "dyspnea" had steadily become worse. She had had only an occasional cough and no sputum, apparently no hemoptosis or vomiting and she was not aware of having had any chills or fever.

A cyst had been removed from below the left breast some 16 years before and this cyst was said to have contained purulent material. I doubt that it had any connection with the present episode and, as you know, sebaceous cysts contain cheesy material which may or may not appear purulent. Her last menstrual period was on 1 January, and previous menstruation had been regular. In diabetes, which this woman had, amenorrhea is a very common symptom and I believe that her amenorrhea, from the first of January on, was due to the fact that she had diabetes. There are many other possibilities, of course. She could have had some sort of a tumor which interfered with her regular ovarian cycle. She could have had an ovarian cyst. She could have been upset because she'd just come to this command from another part of the world, and amenorrhea is not uncommon with women who change their locality or go to school for the first time or go in training and what not.

Visitor:

Could she have been pregnant?

Dr. Klinefelter:

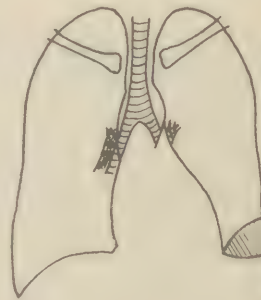
She certainly could have been pregnant. However, I think probably it was due to the diabetes.

On admission there was some dyspnea and the left thoracic cage was splinted. There was tenderness over this area, probably in the mid-axillary line, and in a few hours a few questionable rales were heard. No friction rub was noted. Apparently the rest of the physical examination was normal. However, on first laboratory studies of the urine there was present one plus sugar and two plus albumin. In addition, there were occasional red cells and white cells which I don't think were of any consequence. The blood picture showed definite evidence of hemoconcentration, with a hematocrit of 54. She had a leukocytosis with 87% polymorphs and a sedimentation rate of 45, so she did have evidences of infection. Now, although she had no blood sugar estimation she did have acid phosphatase and alkaline phosphatase levels run. We do not have any idea why she had the last two tests at all, and more so even before the blood sugar was determined. It is impossible to estimate the blood sugar level from a one plus glycosuria, because the renal threshold varies in individuals. Some people with frank diabetes and a blood sugar of 250 will show no sugar in the urine, while another may show only a trace and others will run a four plus glycosuria. The blood sugar was apparently not done until some two days later. Just one word about the red cell counts and hemoglobin. Hemoglobin and red cell counts are the old tests that have been done to find out about the red cell series in the patient. The technical difficulties in doing an accurate hemoglobin determination are much greater than in doing a hematocrit. The red count is even less accurate than the hematocrit. Hematocrit determination is simple today. It does not take a little more time from the mechanical point of centrifuging the tube but it requires far less in the way of human ability.

I would guess that this woman was in mild acidosis when she first came in for observation because she had evidence of hemoconcentration. The chest film was taken apparently on admission. Col. Aronson, could we look at that now?

Colonel Blount:

Unfortunately this single diagram is the only one we have available. The Roentgenologist interpreted the small rounded homogenous shadow in the left lower lung field, with





obliteration of the costophrenic angle as possibly being due to a neoplasm, especially in view of the history of a small growth having been removed from her chest wall previously, and since he found a small defect in the left seventh rib at the anterior axillary line. I presume that was why the phosphatase levels were run. I did not see this patient before her death.

Dr. Klinefelter:

During the next few days her dyspnea increased and she required codeine for the pain. On the 17th of March further studies were done to try to determine just where this mass in the chest was and apparently it was decided that it could very well arise from the pleura or be in the pleura. On the 17th her urinalysis showed four plus sugar and was positive for acetone. No acetone was noted on the patient's breath. I assume that she had been eating at least a little up to this time, because there is no mention of nausea and vomiting. Although she had no fever on admission it was noted the next day that she did have a temperature of 101 degrees plus and her pulse became more rapid. Respirations remained at 20 or 22 although they must have been deeper than normal, until the morning of 18 March when her respiration had increased to 35. At this time her urine again showed four plus sugar and blood sugar was 308. Apparently, the doctor waited until the next morning to do a fasting blood sugar although he had found sugar in the urine on the 17th. It is not necessary to do a fasting blood sugar to find out whether a person has diabetes. It may be necessary to do that in a patient who has a very mild diabetes. Any patient who shows four plus glycosuria is a medical emergency from that time on and ought to have blood sugar tested and CO<sub>2</sub> combining power started immediately. Her NPN was 32 and the blood sugar was 308. The CO<sub>2</sub> combining power was 12.6 volumes % which is very low. In mille equivalents that means only about five mille equivalents where the normal is 23 to 27. She was obviously hyperpneic then, and her color was poor, and she went into a coma which one would expect with that CO<sub>2</sub> reading. At 3 o'clock on the 18th of March (1500) she was started on 50 units of regular insulin and 500 cc's of molar sodium lactate. Now molar sodium lactate in acidosis is fine, but the thing that all patients need in diabetic crises, whether they are in a coma or not, is sodium chloride, and the first thing to do is to push physiological sodium chloride and then add molar lactate later, if you believe in molar lactate. I personally do, but saline is a much more important thing to start with and then add molar lactate when you have the solution made up and ready to inject. Sodium chloride is always available and should be started immediately. She got during the next four hours a total of 3.1 liters of fluid in which there was 110 grams of glucose and she received 225 units of insulin. I think probably she got a little more glucose than was necessary although I am sure that wasn't the reason for her death. She apparently had been eating fairly well up to the time when she lapsed into coma, then she responded and came out of the coma in a matter of four hours. At 1900, four hours after she had started treatment, she had regained consciousness and was asking for water. Half an hour before that her respirations were 36, her face was flushed, lips and tongue were dry, pulse 130, blood pressure 104/60, and in half an hour she was able to ask for water. When patients who have been in acidosis or coma respond and ask for something to drink the thing to give them is salty broth which contains sodium chloride and is one of the richest sources of potassium. Meat extracts have the highest content of potassium of any foods that are commonly available for oral administration. I do not believe that this woman died of potassium deficiency or that potassium deficiency had anything to do with her eventual death, but patients in diabetic acidosis sometimes develop flaccid paralysis due to potassium deficiency. Usually they are patients who have been unable to eat anything for three or four days, and because of their acidosis lose a great deal of base in their urine. They take in no base through their diet and suffer marked urinary loss of cellular potassium due to the tissue breakdown which accompanies acidosis. With the administration of insulin and glucose, the storage of potassium simultaneously with glycogen occurs at an increased rate, leading to even lower serum potassium levels, and with sufficiently low levels, paralysis of respiration occurs. At severe K deficiency levels the EKG will demonstrate typical sagging the S.T. segment. This patient showed no evidence of this. By 1900 she had regained consciousness. However, her CO<sub>2</sub> combining power was still very low and her blood sugar was 187. From that point on is the time to give sodium lactate, i.e., when the CO<sub>2</sub> combining power remains low in spite of the fact that the patient's blood sugar has come down and she still has acidosis. Urine specimens during that period of unconsciousness gradually showed less sugar and persisted in showing acetone. Many patients in diabetic acidosis will persist in having acetone in the urine for days after they regain consciousness but the acetone in the urine by itself is of no particular importance. It simply means that they have not yet replaced all the base that they have lost. At 1915, that is, 7:15 PM, 15 minutes after she had been alert and asking for water, she developed a headache and her blood pressure and pulse went up; 15 minutes later she was restless and apparently thrashed around in bed and 15 minutes after that her pulse was noted to be irregular. Now that doesn't mean too much to have the nurse say the pulse is irregular because quite often they will feel a difference and it may be simply respiratory difference or minor difference which they call irregular, which may not be irregular when the doctor gets there. Apparently the doctor was there shortly afterwards because oxygen was given; 15 minutes later the pulse was no longer irregular, but was rapid and poor in volume. She rapidly went into shock and died in spite of being given plasma,



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glucose and all the supportive treatment that was available. There is no mention of her temperature during that last episode. Is there any way to know whether she had a high fever at the end?

Colonel Blount:

It is my impression that she did have a terminal T° elevation.

Dr. Klinefelter:

Anyway, 15 minutes after that or shortly thereafter, she died apparently of a cerebral type of death with respiratory failure and shock. Actually, I don't have any really good guesses as to what happened during the last hour hours. It seemed to me she was getting better and then suddenly lapsed into a state of coma from which she could not be aroused. One thing that stands out in this case to me is that her infection in her chest was never treated and that, I am sure, is the reason she did not recover. Whether she had a cerebral embolus, or meningitis from an embolus, or whether she had a brain abscess or subarachnoid hemorrhage, I can't tell. I think she should have had adequate thoracentesis and then either an injection of penicillin or an open drainage and local and parenteral penicillin plus possible oral and intravenous sulfadiazine, and possibly streptomycin. Apparently she got no chemotherapy. I feel that she had an empyema, left, possibly pneumococcic or staphylococcic, plus diabetes mellitus which was made worse by the fact that she had an infection which was not treated and that this combination caused her death, although the terminal event may have in some way been related to changes in the cerebral cortex or that she may have had a cerebral vascular accident terminally.

CLINICAL DIAGNOSIS

1. Diabetic Coma
2. Neoplasm of pleura left

Dr. Klinefelter's diagnosis:

1. Diabetes mellitus
2. Empyema, left pleural cavity, pneumococcic or staphylococcic
3. Diabetic coma secondary to 1 and 2 above
4. Possible cerebral vascular accident

ANATOMICAL DIAGNOSES

1. Diabetes mellitus
2. Abscess involving lower lobe of left lung and left lateral chest wall with communicating sinus tract due to hemolytic Staphylococcus albus.
3. Pleural adhesions, fibrous, between lower lobe of left lung and left parietal pleura.
4. Pregnancy, intrauterine, of approximately 6 weeks duration.

Lt. Colonel Aronson:

At autopsy it was determined that she was pregnant. She presented a 2 cm embryo in the uterine cavity, had a slightly enlarged uterus, a corpus luteum of pregnancy in the left ovary and physiological hyperplasia of the breasts.

Careful examination of the pancreas showed no significant histologic changes but this is not unusual in cases of diabetes mellitus in her age group. Cases of diabetes mellitus in which the pancreas shows hyalinization or atrophy of the islands of Langerhans or a diffuse interlobular fibrosis are usually in the older age group.

Her infection was located in the left lateral chest wall and lower lobe of the left lung. Upon opening the left pleural cavity dense fibrous adhesions bound the lower lobe of the left lung to the parietal pleura but further dissection revealed a sinus tract in the center of the area of adhesions. This sinus tract connected two abscess cavities, one in the lower lobe of the left lung, the other in the chest wall. About 2/3 of the lower lobe of the left lung were involved by abscess formation. The chest wall abscess was irregular in shape but measured about 2 cm in diameter and about 5 cm long; it was located between the left 6th and 7th ribs in the mid-axillary line and then extended upward toward the left axilla. The left 6th rib was examined for evidence of an old osteomyelitis but only a chronic periostosis was found apparently due to its position adjacent to the abscess cavity. Although smears of the pus showed Gram positive cocci and Gram negative bacilli only a hemolytic salt resistant Staphylococcus albus was isolated on culture.



It was impossible at the time of autopsy to determine whether the lung abscess was secondary to the abscess in the chest wall or vice versa. The spleen weighed 220 grams and showed an acute inflammatory hyperplasia as did enlarged pulmonary hilar lymph nodes. Careful examination of the brain showed no evidence of cerebral hemorrhage, thrombosis, abscess or neoplasm. All other organs and systems were free of significant lesions. The only infection present in this case was that in the left lung and left lateral chest wall.

The point we wish to emphasize in this case is as follows: Whenever a young person with diabetes is found in acidosis an acute infection of some type should be considered present until proven absent. Such a patient should be treated empirically for infection until the infection can be located and diagnosed as to type.

## XVII. Army Hospital Pharmacy - Capt. John C. Delahunt, MSC, 172d Station Hospital, APO 547



This article which is a correlation of Army and civilian pharmacy training and experience has as its objective (1) the initiation of a uniform procedure in the administration of Pharmacies within a command; (2) the orientation of certain Medical Department officers who are entering a field in which they have little or no experience. It is not the author's intent to make registered pharmacists or pharmacy technicians of all concerned, or to deal with the incompatibilities or other technical pharmacy subjects, but rather to acquaint those interested with information as to the fundamentals of good pharmacy administrative procedures and methods of, and reasons for a strict accurate accounting system for narcotics and drugs of

similar nature. Many of the suggestions and ideas contained herein are from Army Regulations and Technical Manuals published by the Department of the Army.

### PURPOSE FOR CAREFUL RECORD KEEPING

Under the various pure food and drug acts, laws, both State and Federal, have been established which govern handling, dispensing and the accounting of various drugs. In accordance with the narcotic laws, such drugs may be dispensed only upon receipt of a written prescription signed by a licensed physician. Laws also provide that prescriptions be kept as permanent records and drugs dispensed thereby accurately accounted for. These records must be available for authorized state and federal inspectors at all times.

The "Bible" of all laws pertaining to handling of narcotics is the Harrison Narcotic Law, which provides the following:

- (1) Those who may possess narcotic drugs.
- (2) The licensing and registering of those who manufacture, dispense or prescribe narcotics.
- (3) Requires that certain information be presented on the prescription, that is - Name, Age, Address of Patient, etc.
- (4) Directs accurate keeping of narcotic records by those licensed to handle narcotics.
- (5) The violation of any of the provisions of the law may result in a \$2,000 fine or imprisonment for five years, or both.
- (6) Lists certain preparations which are exempt from provisions of the Harrison Narcotic Act and may be purchased without a prescription because they contain only small amounts of narcotics - example: Paregoric.

The Harrison Narcotic Act was passed for the purpose of regulating the manufacture, sale, dispensing and prescribing of narcotic drugs. Narcotic drugs are defined by law to mean Opium and Coca and all their preparations, derivatives and salts, natural or synthetic.

The specific drugs under the provisions of the Harrison Narcotic Act are:

#### OPIUM

- |  |                              |
|--|------------------------------|
| 1. Opium   | 6. Dilaudid                  |
| 2. Dover's Powder                                  | 7. Dionin                    |
| 3. Tincture of Opium                               | 8. Pantapan                  |
| 4. Morphine Sulfate (Powder, tablets or solution)  | 9. Apomorphine Hydrochloride |
| 5. Codeine (Alkaloids, Salts, tablets or solution) | 10. Papaverine               |

#### COCA

1. Cocaine (Alkaloids, salts, tablets or solution)
2. Cocaine Hydrochloride
3. Phenacaine Hydrochloride
4. Trapacocaine Hydrochloride



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The above list includes such drugs as apomorphine and papaverine which are not narcotic in the strict medical sense of the term, but which are contained in opium (papaverine) or derived synthetically from it (apomorphine). Also note that most of the synthetic local anesthetics, although possessing similar pharmacological actions in local anesthesia, have a chemical structure sufficiently different from that of cocaine in that they are not considered synthetic derivatives of cocaine and consequently do not come under the provisions of the Harrison Narcotic Act.

A narcotic is defined as a drug which produces sleep or stupor, such as opium or its derivatives. Addiction is defined as the state of being habituated to some drug.

There is also another group of drugs called barbiturates which fall into the class of hypnotics. Hypnotics are defined as drugs which also produce sleep. The main general difference between narcotics and hypnotics is that narcotics are used to induce sleep in patients suffering from pain whereas hypnotics have little or no ability to relieve pain, but are used to induce sleep where insomnia is caused by some reason other than pain.

At the present time there is no federal law governing the handling of barbiturates. Nearly all states have barbiturate laws of varying degrees of strictness and it is expected that in the near future a federal law of Harrison Law strength will be forthcoming, dealing with barbiturates. However, until that time, state laws will prevail and records of barbiturates must be kept in civilian pharmacies in nearly all the states.

The state and federal governments have a special group of highly trained investigators who check physicians, pharmacists, wholesale drug firms, and manufacturing firms to see that they have proper records. An additional duty of these investigators is to pick up samples of drugs or preparations without prior warning and have these samples tested by state laboratories. If the results of these quantitative and qualitative tests are within limits prescribed, all is satisfactory. If found not satisfactory, a complete investigation is initiated to determine the cause of this error. It can readily be seen that narcotic record keeping is not an Army method of more "red tape" or "paper work." There must be a reason and a good reason why the state and federal governments set up and rigidly enforce this elaborate and expensive system of checks on adequate pharmacy procedures.

Similarly, in the Army, records must be kept pertaining to narcotics, for the Harrison Narcotic Law is a federal law and its authority extends to the Army. Although no federal law pertains to barbiturates, common sense and good practical pharmacy dictate a system of accounting following good medical procedures to account for the entire group of narcotics, barbiturates and alcohol.

### STANDARD PROCEDURE

Realizing fully that no system of record keeping is better than the honesty and integrity of the pharmacist or physician involved, the following system is submitted as one good workable method of keeping accurate records. This is not the only system, but it is the system the author offers for a standard administrative set-up thus enabling the use of standard auditing and inspecting procedure.

A. Army Regulations say that only three separate files of prescriptions are necessary - however in the spirit of good, concise, record keeping, it is recommended that five sets of prescription files be kept, further, that these prescriptions be filed in a book, blank, prescription filing (found in Medical Supply Catalogue #4-044-420) as shown in Figure 1.

- Book I - All narcotic prescriptions
- Book II - All barbiturate prescriptions
- Book III - All alcohol prescriptions
- Book IV - All prescriptions for civilians  
other than the above type
- Book V - All other prescriptions

The essential difference between the method prescribed in Army Regulations and the method at the 172d Station Hospital is that in the Regulation method, alcohol prescriptions are filed in Book I (narcotic book) where in the recommended method we file all alcoholic prescriptions in Book III, a separate book. The reason for this difference is that it has been found by experience that an

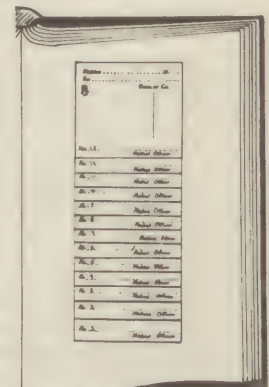


FIGURE 1

PRESCRIPTION FILING BOOK



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easier check on the amount of alcohol being used can be made by being able to look at only one file rather than look through an entire file of prescriptions. The extra work involved is negligible. In addition, the Army Regulations method directs that a separate book be kept for civilian prescriptions, other than alcohol or narcotics, it is the opinion of the writer that this extra book is necessary.

B. The following policies relative to filing prescriptions prevail:

- (1) Prescriptions in a specific class are filed in that book regardless of whether or not prescription is for an out-patient or an in-patient.
- (2) The prescriptions are posted in the middle of the page beginning at the bottom - (See Fig. 1).
- (3) The prescriptions are numbered in numerical order with the class designated, i.e., B for Barbiturates, N for Narcotics, A for Alcohol, and no letter for prescriptions of Books IV and V. For example, B-6241-49, the 49 at the end of the number designating the year.

C. The basic instrument of record keeping is the WD AGO-421 (Figure 2). In the pharmacy this form is called the Narcotic Register and is filed in loose leaf binder. A separate WD AGO-421 is kept for each drug and each strength of each drug on which it is desired to keep a record - narcotics - barbiturates - alcohol. For example, a separate card will be kept on morphine sulfate powder and a separate card on morphine SO<sub>4</sub> 1/2 gr H.T. This card was of course not originally designed as a means of keeping narcotic registers. However it will work satisfactorily with a little explanation.

0077	RECORDS ADMINISTRATION	DISCUSSION	CLASSIFIED	NO
CONTROL		<i>Confidential</i>	REASON	
EX-100				
RECORDS				
POINT				
FILE				
STORY				
			19	13

FIGURE 2  
(WD ASD 421)

- (1) The 1st Column - "date" is the date the transaction occurred.
- (2) 2d Column - "Quantity Received" will be filled in only when items are received into the narcotic cabinet. It is where the actual amount of incoming narcotic is placed.
- (3) 3d Column - "Voucher Number" will be used to show the number of the debit voucher (the approved requisition from the Medical Supply) or the number of credit voucher. (The prescription authorizing expenditure of a narcotic.)
- (4) Column 4 (Initial Issue) - The issuing pharmacist will place his initials in this column.
- (5) Column 5 - "Replacement Issue" will be used to show the actual amount of narcotic used in the prescription. (Credit voucher number)
- (6) Column 6 - "Transfer" will be used to show section issuing or using the narcotic. By completing this section, one can tell by a glance what section is using the bulk of a narcotic, thus eliminating the necessity of thumbing through prescription files.
- (7) Column 7 - "Balance on Hand" is self-explanatory and will show the actual amount of narcotic on hand. The figure for entry in this column will be obtained by adding or subtracting - depending on whether entry is debit or credit, to the preceding figure in Column 7.

D. The following policies relative to the WD AGO-421 should prevail:

- (1) The voucher of items coming into the pharmacy from Medical Supply will be numbered numerically in sequence and entered as shown in entry marked "A" of Fig. 2. The separate file of all debit vouchers will be kept in the pharmacy.
- (2) The prescription number of items going out of the pharmacy will be entered in the credit section as shown in entry marked "B" of Fig. 2.
- (3) The above procedures are called "Posting".

E. Realizing that the workload at times in a pharmacy prevents on the spot posting and further, that being called to fill a prescription while posting may cause a mistake in posting or prescription filling, we have devised a method outlined as follows to preclude errors:



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- (1) Boxes, size 6" by 4" and 2" deep, were constructed and placed by the dispensing counter.
- (2) The boxes are labeled, Narcotic - Barbiturate - Alcohol, and Other.
- (3) As the pharmacist compounds the prescription he numbers the prescription and puts the prescription in the appropriate box.
- (4) Just prior to closing the pharmacy the Pharmacist in the evening posts the day's prescriptions in the WD AGO-421 and pastes the prescription itself in the appropriate book.

F. From time to time the need apparently arises for another book or separate class of prescriptions. In the interests of simplicity we recommend that a "log" of the new "class" be made instead of a new book. See Figure 3. A good example of what we mean is found in the new "class" of prescription - that is, new in FEC - of "pay" prescription. Circular 16, FEC, dated 26 February 1949, as amended, directs certain categories of personnel who are eligible for medical care as pay patients. Although costs of "Ordinary Medical Supplies" are included in both the \$1.75 for each out-patient treatment and the \$10.75 for each day of in-patient care - the costs of expensive drugs and supplies which have been procured for treatment of individual cases will be borne by the individual. So, we find we have a special class and in order to see at a glance how much of a pay patient prescription load we have, we file the prescription itself where it belongs in the appropriate file (Book I, II, III, IV or V) and make an entry in the log, (Fig. 3). A similar system can be initiated as each new or special "Class" comes up thus avoiding the handicap of having too many books.

## DISPOSITION OF PHARMACY FILES

Current instructions pertaining to disposition of Pharmacy Services files are as follows:

(a) Prescription File: These will in the case of our recommended "Standard System" be the Prescription Filing Book in which our various classes of prescriptions are filed. These will be destroyed after three years and Unit Records Administrator notified.

(b) Narcotic Registers: These are the WD AGO Form 421 on which we keep a record of the procurement and dispensing, as shown in Fig. 2. They will be destroyed two years after audit and clearance of stock record account to which these registers relate. Unit Records Administrator should be notified.

(c) In the 172d Station Hospital it has been directed that as Ward Narcotic Registers WD AGO 8-212 become completely filled, they be sent to the pharmacy where they are kept until three months after the last dated entry - then they are destroyed and the Records Administrator of the Hospital notified. Delegation to the pharmacy of the responsibility of disposition of Ward Narcotics Registers facilitates more closely supervised central control of Narcotic Registers.

## CONTROL OF POISONS

Toxicology is the science of poisons. It is not the author's intention in this article to make a study of toxicology - it is a separate science within itself. However, it is intended to impress upon all concerned the definition and proper storage of poisons. A poison is any substance (drug, chemical or reagent) which is likely to destroy human life or seriously endanger health when applied externally to the body or when taken internally in a dose of less than one teaspoonful (4cc in liquid form) or 4 gm in solid state. All poisons should be kept in a locked drawer or cabinet entirely separated from all other bottles or drugs in the Pharmacy so that there is no possible chance of using the wrong bottle. GHQ Medical Section has prepared and published in Section IX, Surgeon's Circular Letter, Volume IV, #3, dated 1 March 1949, a complete list of poisons and antidotes. A copy of this should be posted in plain sight in the Pharmacy and a complete antidote set should be in an easily accessible place within the Pharmacy. It is advisable of course to have a complete set in the Admission Office Treatment Room. These sets are prepared in accordance with the set outlined in Section XIII of the above mentioned Surgeon's Circular Letter.

[illegible]

FIGURE 3



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(3) number of in-patient prescriptions filled

(4) total number of prescriptions filled

Entries on this chart are made each Monday morning thus showing a true picture of the workload for the past week.

#### CONCLUSION

This article has, in addition to presenting a recommended "Standard System," for Army Pharmacy, brought forth a proposal for setting up a control agency for Pharmacy in the Army. This agency could be set up at no lower than field Army level and in addition to having an inspection function could also be instrumental in making sure that only good technical pharmacists of high moral character are the only persons preparing or dispensing medicine in Army hospitals and dispensaries. Further this agency could be responsible for obtaining samples of preparations compounded in the pharmacy and having them tested qualitatively or quantitatively as necessary.

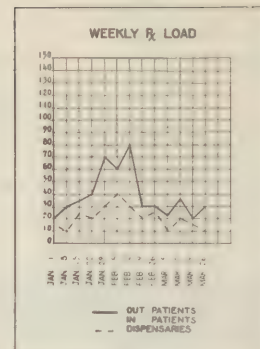


FIGURE 6

In order that Army pharmacy may be equal to the high professional standards of its civilian counterpart, it is felt that the following suggestions are a necessity:

- (a) The setting up of a central agency at Army level to control pharmacy in a command.
- (b) High personal and educational standards for all persons working in unit pharmacies with the control agency checking constantly on the status of these qualifications.
- (c) Setting up standard administrative procedures with uniform general and special policies.
- (d) Publication at least at Army Field or Army Area level of these standards and policies so that pharmacy throughout a command may be run in a uniform manner.

#### RETENTION OF RESIDENCIES FOR MEDICAL OFFICERS

Attention of all nonregular Medical Corps officers is invited to the provisions of Department of the Army radio message WCL 34546, dated 26 April 1949, pertinent parts of which are quoted below:

"When MC officers have contracted for residencies by 1 July, but will not be eligible for release by that date this office (Office of The Surgeon General, Washington, D.C.) will be pleased upon request to write to hospitals concerned asking them to hold residencies. Over 200 such requests have been made and all have been granted. . . . ."

All nonregular Medical Corps officers are encouraged to extend their overseas tours for as short a period as one month and for as long a period as each officer can conveniently commit himself.

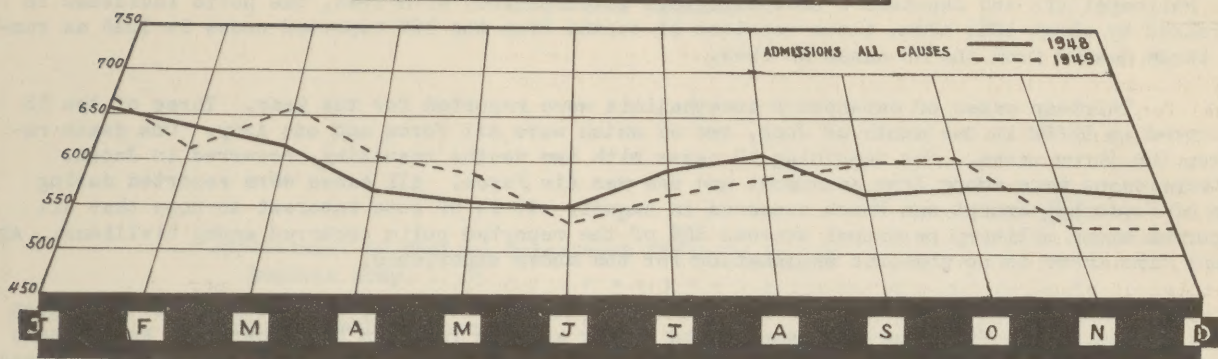


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## PART III

## STATISTICAL

## HEALTH OF THE COMMAND



Admission rates per 1000 troops per annum for the five-week period ending 30 December 1949 were as follows:

	FEC	JAPAN	MARBO	PHILCOM	RYCOM
All Causes	531	584	251	282	430
Diseases	482	533	190	241	397
Injuries	49	52	60	35	34
Psychiatric	8.1	8.5	0	13	8.5
Common Respiratory Diseases & Flu	58	70	10	13	28
Primary Atypical Pneumonia	2.5	2.5	1.1	0	3.7
Common Diarrhea	3.4	3.2	1.1	1.7	5.9
Bacillary Dysentery	.21	0	0	5	0
Amebic Dysentery	.21	.09	0	0	1.1
Malaria, new	.48	.09	1.1	1.7	2.1
Infectious Hepatitis	3.4	3.7	1.1	8.3	1.1
Mycotic Dermatoses	2.3	3.1	0	0	0
Rheumatic Fever	.48	.54	0	0	.53
Venereal Diseases	162	166	33	96	215

The admission rate for all causes for December is 531 per 1000 troops per annum. This is an increase of only one over the previous month which was the lowest rate recorded so far in the FEC. In comparison, the rate for the same period a year ago was 561. All the commands had a decrease in the all-causes admission rate except Japan which increased from 570 in November to 584 for December.

The non-effective rate for December is 16. The previous low non-effective rate occurred in August of this year, at which time it was 17. The non-effective rates for the various commands are as follows: Japan 14; MARBO 9.7; RYCOM 10, and PHILCOM 93.

**DISEASES: Common Respiratory Diseases and Influenza:** Common respiratory diseases and influenza, which so far this year have presented an unusually low incident rate, continued to be low with a rate of 58 for December as compared to 59 for November. MARBO decreased from a rate of 55 in November to 10 in December. PHILCOM decreased from 32 to 13. Japan remained about the same, having a rate of 69 in November and 70 in December, and RYCOM increased from 11 for the previous month to 28 in December. There was one serologically confirmed case of influenza for the month of December. This occurred in Japan. Pneumonias have continued to occur at a low rate throughout the fall months. The rates for all pneumonias for the FEC for the past three months have been 4.5, 4.5, and 4.8, respectively.

**Malaria:** There were 7 cases of new malaria reported for the FEC during the five weeks period for the month of December, four of which occurred in RYCOM. This gives a rate for the month for the FEC of .48 as compared to the previous month of .76, which was the lowest all-time rate for this command.

**Venereal Diseases:** The total venereal diseases incidence for the FEC demonstrates a slight



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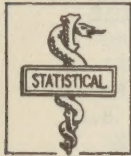
increase over the month of November, at which time the rate was 159, as compared to 162 for December. All major commands except Japan have a slight decrease in rate from the month of November. Japan increased from 161 for November to 166 in December. The rate among white troops in Japan increased from 157 in November to 159 in December as compared to the increase among colored troops for the same period from a rate of 190 to 240. The gonorrhea and syphilis components of the total venereal disease rate for December were 98 and 15, respectively.

Poliomyelitis and Japanese B Encephalitis: In comparison with 1948, the polio incidence in 1949 decreased by about 10%; also, there resulted 11 deaths from the 107 reported cases in 1948 as compared to three deaths from the 99 cases in 1949.

Thirteen cases of Japanese B encephalitis were reported for the year. Three of the 13 cases occurred in RYCOM in the month of June, two of which were Air Force and one Army. One death resulted from the three cases. The remaining 10 cases with two deaths resulting, occurred in Japan. Nine of these cases were among Army personnel and one was Air Force. All cases were reported during the month of September except one which occurred in August. It is of some interest to note that all Jap B occurred among military personnel whereas 65% of the reported polio occurred among civilians. At the present time there is no specific explanation for the above experience.

Non-Battle Injuries and Deaths: The non-battle injury rate of 49 for December is the lowest such rate recorded in the FEC. For the same period a year ago the rate was 56. There was an increase in the number of deaths reported for the five-week period in December as compared to the previous month. Eighth deaths resulted from diseases and 20 from injuries.

## Evacuation:



Tabulated below are the number of patients evacuated from the major commands to the ZI during the 5-report weeks in December and the number of patients awaiting evacuation as of 30 December 1949:

	BY AIR	BY WATER	TOTAL	PNTS AWAIT EVAC
JAPAN	231	29	260	95
MARBO	16	0	16	5
PHILCOM	24	1	25	11
RYCOM	25	0	25	17
FEC	296	30	326	128

Evacuations of military personnel per 1000 strength for the period of 26 November to 30 December were as follows:

JAPAN	2.0	PHILCOM	3.2
MARBO	1.6	RYCOM	1.2
FEC	1.9		

## Hospitalization:

The bed status as of 30 December 1949 was as follows:

	Total T/O Beds Authorized	Total T/O Beds Established	Total T/O Beds Occupied
JAPAN	4,600	4,163	1,508
MARBO	225	225	84
PHILCOM	1,250	1,250	500
RYCOM	750	443	220
FEC	6,825	6,081	2,312

The percent of T/O beds and established beds occupied as of 30 December 1949 was as follows:

	Percent Authorized T/O Beds Occupied	Percent of Established Beds Occupied
JAPAN	33	36
MARBO	37	37
PHILCOM	40	40
RYCOM	29	50
FEC	34	38



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The Chief Surgeon extends an invitation to all personnel of the Medical Department to prepare and forward, with view to publication, articles of professional or administrative nature. It is assumed that editorial privilege is granted. Copy should be forwarded so as to reach the Medical Section, GHQ, FEC, not later than the 10th of the month preceding the issue in which publishing is desired.

Capt. Vincent I. Hack, Editor